



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,608	07/31/2003	John Santhoff	30287-95	5562
44279	7590	07/10/2006	EXAMINER	
PULSE-LINK, INC. 1969 KELLOGG AVENUE CARLSBAD, CA 92008			KIM, KEVIN	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/633,608	SANTHOFF ET AL.	
	Examiner Kevin Y. Kim	Art Unit 2611	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 25 April 2006.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-27 is/are pending in the application.

4a) Of the above claim(s) 13-26 is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-12 and 27 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I in the reply filed on April 25, 2006 is acknowledged. The traversal is on the ground(s) that there is no serious burden on the Examiner. Specifically, the search of Group 1 may likely uncover references related to the subject matter of Groups II and III. This is not found persuasive because applicant fails to present a compelling evidence for an likelihood of uncovering references related to the subject matter of Groups II and III when the subject matter called for in these groups do not share much in common except that there are in the same field of endeavor.

The requirement is still deemed proper and is therefore made FINAL.

Response to Arguments

2. Applicant's arguments filed April 25, 2006 have been fully considered but they are not persuasive.

Applicant asserts that the Libove patent fails to teach the claimed invention. The quoted passage of the patent clearly describes a sampling apparatus for an UWB communication system, among other things, which clearly requires receiving an electromagnetic signal, sampling the signal and demodulating the sampled signal. In addition, as admitted at page 6 of the specification, UWB are transmitted without modulation a carrier frequency since there is no carrier frequency. Correspondingly, there is no mixing of the UWB pulses with a locally generated carrier frequency.

Applicant argues that the Betra patent fails to teach a receiver. However, the UWB receiver is already disclosed by the primary reference to the Libove patent. The Betra patent was relied on to establish the obviousness of the claimed sampling rates and modulation scheme. Although, differential PAM is not expressly mentioned, a reference describing a PAM is considered to include any well known variation of PAM scheme, i.e., differential PAM.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102:

4. Claims 1, 5, 7 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Libovo et al (US 6,642,878 previously cited).

Libovo et al discloses a method of obtaining data from an electromagnetic signal (UWB), comprising the steps of;
receiving a modulated electromagnetic signal, col. 2, line 54,
sampling the received signal, see col. 2, lines 60-65 and
demodulating the signal without mixing the signal with a second electromagnetic signal.
As also admitted, the UWB communication does not need mixing the received signal with a local signal since it does not have a carrier signal.

Claim Rejections - 35 USC § 103

5. Claims 2-4, 6, 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Libovo et al, as applied to claim 1 above in view of Batra et al (US 6,985,532 previously cited).

Claim 2, 3 and 6.

Libovo et al discloses an electromagnetic pulse sampling circuit, see Fig.1 and a plurality of electromagnetic pulse sampling circuits, see Fig.2A. Libovo et al does not specify the sampling rate. However, since the sampling circuit is used for demodulation of a UWB signal whose typical frequency is in the order of a GHz it would have been obvious to sample the signal at a rage ranging between about 10 pico-seconds to about 500 pico-seconds for the purpose of providing Nyquist sampling rate for sampling such a UWB frequency. See Batra et al, col.1, lines 20-35.

Claims 4, 8, 10 and 12.

The UWB communication uses one of pulse modulation techniques, one of which pulse amplitude modulation (PAM). See Batra et al, col.1, lines 36-45. Differential PAM, a variation of PAM, compares the amplitude of a later signal sample to the amplitude of a previous sample to obtain data so that it has a better S/N ratio in a noisy communication environment. Thus, it would have been obvious to one skilled in the art at the time the invention was made to compare the amplitude of a later signal sample to the amplitude of a previous sample to obtain data when DPAM is used to mitigate the noise level of the communication medium.

Claims 9 and 11.

Libovo et al does not specify the sampling rate. However, since the sampling circuit is used for demodulation of a UWB signal it would have been obvious to sample the signal at a rage ranging between about 10 pico-seconds to about 500 pico-seconds for the purpose of demodulating a GHz frequency. See Batra et al, col.1, lines 20-35.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

July 6, 2006

AU 2611

Kevin Kim

KEVIN KIM
PATENT EXAMINER